ABSTRACT

Coatings for implantable electrodes such as pacing electrodes, neurostimulator electrodes, and electroporating electrodes and sensing electrodes are described. The coatings are highly biocompatible, having low polarization. They consist of a biocompatible, conductive substrate, such as of sintered platinum/10% iridium; a thin film outer layer of biocompatible, conductive carbon; and a biocompatible, conductive intermediate layer having a high surface area. The intermediate layer is preferably of sputtered titanium nitride and increases the surface area of the carbonaceous outer layer.